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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/724,965

DATE: 12/19/2001  
TIME: 16:21:10

Input Set : A:\14643-009031US.txt  
Output Set: N:\CRF3\12192001\I724965.raw

ENTERED

## SEQUENCE LISTING

4 (1) GENERAL INFORMATION:  
 6 (i) APPLICANT: Lonberg, Nils  
 7 Kay, Robert M.  
 9 (ii) TITLE OF INVENTION: Transgenic Non-Human Animals for  
 10 Producing Heterologous Antibodies  
 12 (iii) NUMBER OF SEQUENCES: 417  
 14 (iv) CORRESPONDENCE ADDRESS:  
 15 (A) ADDRESSEE: Townsend and Townsend and Crew LLP  
 16 (B) STREET: Two Embarcadero Center, Eighth Floor  
 17 (C) CITY: San Francisco  
 18 (D) STATE: California  
 19 (E) COUNTRY: USA  
 20 (F) ZIP: 94111-3834  
 22 (v) COMPUTER READABLE FORM:  
 23 (A) MEDIUM TYPE: Floppy disk  
 24 (B) COMPUTER: IBM PC compatible  
 25 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
 26 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30  
 28 (vi) CURRENT APPLICATION DATA:  
 C--> 29 (A) APPLICATION NUMBER: US/09/724,965  
 C--> 30 (B) FILING DATE: 28-Nov-2000  
 31 (C) CLASSIFICATION:  
 102 (vii) PRIOR APPLICATION DATA:  
 35 (A) APPLICATION NUMBER: US 08/758,417  
 36 (B) FILING DATE: 02-DEC-1996  
 39 (A) APPLICATION NUMBER: US 08/728,463  
 40 (B) FILING DATE: 10-OCT-1996  
 43 (A) APPLICATION NUMBER: US 08/544,404  
 44 (B) FILING DATE: 10-OCT-1995  
 47 (A) APPLICATION NUMBER: US 08/352,322  
 48 (B) FILING DATE: 07-DEC-1994  
 51 (A) APPLICATION NUMBER: US 08/209,741  
 52 (B) FILING DATE: 09-MAR-1994  
 55 (A) APPLICATION NUMBER: US 08/165,699  
 56 (B) FILING DATE: 10-DEC-1993  
 59 (A) APPLICATION NUMBER: US 08/161,739  
 60 (B) FILING DATE: 03-DEC-1993  
 63 (A) APPLICATION NUMBER: US 08/155,301  
 64 (B) FILING DATE: 18-NOV-1993  
 67 (A) APPLICATION NUMBER: US 08/096,762  
 68 (B) FILING DATE: 22-JUL-1993  
 71 (A) APPLICATION NUMBER: US 08/053,131  
 72 (B) FILING DATE: 26-APR-1993  
 75 (A) APPLICATION NUMBER: US 07/990,860  
 76 (B) FILING DATE: 16-DEC-1992  
 79 (A) APPLICATION NUMBER: US 07/904,068

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80 (B) FILING DATE: 23-JUN-1992  
83 (A) APPLICATION NUMBER: US 07/853,408  
84 (B) FILING DATE: 18-MAR-1992  
87 (A) APPLICATION NUMBER: US 07/810,279  
88 (B) FILING DATE: 17-DEC-1991  
91 (A) APPLICATION NUMBER: US 07/575,962  
92 (B) FILING DATE: 31-AUG-1990  
95 (A) APPLICATION NUMBER: US 07/574,748  
96 (B) FILING DATE: 29-AUG-1990  
99 (A) APPLICATION NUMBER: WO PCT/US92/10983  
100 (B) FILING DATE: 29-AUG-1991  
103 (A) APPLICATION NUMBER: WO PCT/US91/06185  
104 (B) FILING DATE: 29-AUG-1991  
106 (viii) ATTORNEY/AGENT INFORMATION:  
107 (A) NAME: Serafini, Andrew T.  
108 (B) REGISTRATION NUMBER: 41,303  
109 (C) REFERENCE/DOCKET NUMBER: 014643-009030US  
111 (ix) TELECOMMUNICATION INFORMATION:  
112 (A) TELEPHONE: (415) 576-0200  
113 (B) TELEFAX: (415) 576-0300  
116 (2) INFORMATION FOR SEQ ID NO: 1:  
118 (i) SEQUENCE CHARACTERISTICS:  
119 (A) LENGTH: 10 base pairs  
120 (B) TYPE: nucleic acid  
121 (C) STRANDEDNESS: single  
122 (D) TOPOLOGY: linear  
W--> 124 (ii) MOLECULE TYPE: DNA  
127 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
129 CTAADTGGGG 10  
132 (2) INFORMATION FOR SEQ ID NO: 2:  
134 (i) SEQUENCE CHARACTERISTICS:  
135 (A) LENGTH: 5 amino acids  
136 (B) TYPE: amino acid  
137 (C) STRANDEDNESS:  
138 (D) TOPOLOGY: linear  
140 (ii) MOLECULE TYPE: peptide  
143 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  
145 Asp Ala Phe Asp Ile  
146 1 5  
149 (2) INFORMATION FOR SEQ ID NO: 3:  
151 (i) SEQUENCE CHARACTERISTICS:  
152 (A) LENGTH: 5 amino acids  
153 (B) TYPE: amino acid  
154 (C) STRANDEDNESS:  
155 (D) TOPOLOGY: linear  
157 (ii) MOLECULE TYPE: peptide  
160 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:  
162 Asp Tyr Phe Asp Tyr  
163 1 5

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166 (2) INFORMATION FOR SEQ ID NO: 4:  
168 (i) SEQUENCE CHARACTERISTICS:  
169 (A) LENGTH: 5 amino acids  
170 (B) TYPE: amino acid  
171 (C) STRANDEDNESS:  
172 (D) TOPOLOGY: linear  
174 (ii) MOLECULE TYPE: peptide  
177 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
179 Gly Ala Phe Asp Ile  
180 1 5  
183 (2) INFORMATION FOR SEQ ID NO: 5:  
185 (i) SEQUENCE CHARACTERISTICS:  
186 (A) LENGTH: 4 amino acids  
187 (B) TYPE: amino acid  
188 (C) STRANDEDNESS:  
189 (D) TOPOLOGY: linear  
191 (ii) MOLECULE TYPE: peptide  
194 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:  
196 Lys Glu Arg Val  
197 1  
200 (2) INFORMATION FOR SEQ ID NO: 6:  
202 (i) SEQUENCE CHARACTERISTICS:  
203 (A) LENGTH: 4 amino acids  
204 (B) TYPE: amino acid  
205 (C) STRANDEDNESS:  
206 (D) TOPOLOGY: linear  
208 (ii) MOLECULE TYPE: peptide  
211 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:  
213 Asn Asp Ser Val  
214 1  
217 (2) INFORMATION FOR SEQ ID NO: 7:  
219 (i) SEQUENCE CHARACTERISTICS:  
220 (A) LENGTH: 12 base pairs  
221 (B) TYPE: nucleic acid  
222 (C) STRANDEDNESS: single  
223 (D) TOPOLOGY: linear  
W--> 225 (ii) MOLECULE TYPE: RNA  
228 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7: 12  
230 AAAGAAAGAG UU  
233 (2) INFORMATION FOR SEQ ID NO: 8:  
235 (i) SEQUENCE CHARACTERISTICS:  
236 (A) LENGTH: 12 base pairs  
237 (B) TYPE: nucleic acid  
238 (C) STRANDEDNESS: single  
239 (D) TOPOLOGY: linear  
W--> 241 (ii) MOLECULE TYPE: RNA  
244 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8: 12  
246 AACGACAGCG UU  
249 (2) INFORMATION FOR SEQ ID NO: 9:

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251 (i) SEQUENCE CHARACTERISTICS:  
252 (A) LENGTH: 15 base pairs  
253 (B) TYPE: nucleic acid  
254 (C) STRANDEDNESS: single  
255 (D) TOPOLOGY: linear  
W--> 257 (ii) MOLECULE TYPE: DNA  
260 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:  
262 GAGCTGAGCT GGGGT 15  
265 (2) INFORMATION FOR SEQ ID NO: 10:  
267 (i) SEQUENCE CHARACTERISTICS:  
268 (A) LENGTH: 20 base pairs  
269 (B) TYPE: nucleic acid  
270 (C) STRANDEDNESS: single  
271 (D) TOPOLOGY: linear  
W--> 273 (ii) MOLECULE TYPE: DNA  
276 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:  
278 GAGCTGAGCT GAGCTGGGGT 20  
281 (2) INFORMATION FOR SEQ ID NO: 11:  
283 (i) SEQUENCE CHARACTERISTICS:  
284 (A) LENGTH: 25 base pairs  
285 (B) TYPE: nucleic acid  
286 (C) STRANDEDNESS: single  
287 (D) TOPOLOGY: linear  
W--> 289 (ii) MOLECULE TYPE: DNA  
292 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:  
294 GAGCTGAGCT GAGCTGAGCT GGGGT 25  
297 (2) INFORMATION FOR SEQ ID NO: 12:  
299 (i) SEQUENCE CHARACTERISTICS:  
300 (A) LENGTH: 30 base pairs  
301 (B) TYPE: nucleic acid  
302 (C) STRANDEDNESS: single  
303 (D) TOPOLOGY: linear  
W--> 305 (ii) MOLECULE TYPE: DNA  
308 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:  
310 GAGCTGAGCT GAGCTGAGCT GAGCTGGGGT 30  
313 (2) INFORMATION FOR SEQ ID NO: 13:  
315 (i) SEQUENCE CHARACTERISTICS:  
316 (A) LENGTH: 35 base pairs  
317 (B) TYPE: nucleic acid  
318 (C) STRANDEDNESS: single  
319 (D) TOPOLOGY: linear  
W--> 321 (ii) MOLECULE TYPE: DNA  
324 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:  
326 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GGGGT 35  
329 (2) INFORMATION FOR SEQ ID NO: 14:  
331 (i) SEQUENCE CHARACTERISTICS:  
332 (A) LENGTH: 40 base pairs  
333 (B) TYPE: nucleic acid  
334 (C) STRANDEDNESS: single

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335	(D) TOPOLOGY: linear	
W--> 337	(ii) MOLECULE TYPE: DNA	
340	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:	
342	GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGGGT	40
345	(2) INFORMATION FOR SEQ ID NO: 15:	
347	(i) SEQUENCE CHARACTERISTICS:	
348	(A) LENGTH: 45 base pairs	
349	(B) TYPE: nucleic acid	
350	(C) STRANDEDNESS: single	
351	(D) TOPOLOGY: linear	
W--> 353	(ii) MOLECULE TYPE: DNA	
356	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:	
358	GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GGGGT	45
361	(2) INFORMATION FOR SEQ ID NO: 16:	
363	(i) SEQUENCE CHARACTERISTICS:	
364	(A) LENGTH: 50 base pairs	
365	(B) TYPE: nucleic acid	
366	(C) STRANDEDNESS: single	
367	(D) TOPOLOGY: linear	
W--> 369	(ii) MOLECULE TYPE: DNA	
372	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:	
374	GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGGGT	50
377	(2) INFORMATION FOR SEQ ID NO: 17:	
379	(i) SEQUENCE CHARACTERISTICS:	
380	(A) LENGTH: 55 base pairs	
381	(B) TYPE: nucleic acid	
382	(C) STRANDEDNESS: single	
383	(D) TOPOLOGY: linear	
W--> 385	(ii) MOLECULE TYPE: DNA	
388	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:	
390	GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GGGGT	55
393	(2) INFORMATION FOR SEQ ID NO: 18:	
395	(i) SEQUENCE CHARACTERISTICS:	
396	(A) LENGTH: 60 base pairs	
397	(B) TYPE: nucleic acid	
398	(C) STRANDEDNESS: single	
399	(D) TOPOLOGY: linear	
W--> 401	(ii) MOLECULE TYPE: DNA	
404	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:	
406	GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGGGT	60
409	(2) INFORMATION FOR SEQ ID NO: 19:	
411	(i) SEQUENCE CHARACTERISTICS:	
412	(A) LENGTH: 65 base pairs	
413	(B) TYPE: nucleic acid	
414	(C) STRANDEDNESS: single	
415	(D) TOPOLOGY: linear	
W--> 417	(ii) MOLECULE TYPE: DNA	
420	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:	
422	GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT	60

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/724,965

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Input Set : A:\14643-009031US.txt  
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L:29 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]  
L:30 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]  
L:124 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=1  
L:225 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=7  
L:241 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=8  
L:257 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=9  
L:273 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=10  
L:289 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=11  
L:305 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=12  
L:321 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=13  
L:337 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=14  
L:353 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=15  
L:369 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=16  
L:385 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=17  
L:401 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=18  
L:417 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=19  
L:435 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=20  
L:453 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=21  
L:471 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=22  
L:489 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=23  
L:507 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=24  
L:525 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=25  
L:541 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=26  
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L:573 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=28  
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L:605 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=30  
L:621 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=31  
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L:653 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=33  
L:669 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=34  
L:685 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=35  
L:701 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=36  
L:717 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=37  
L:733 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=38  
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L:765 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=40  
L:781 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=41  
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L:813 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=43  
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L:893 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=48  
L:909 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=49  
L:925 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=50  
L:941 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=51

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L:989 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=54  
L:1005 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=55  
L:6160 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 306